

the hollow, spiny, chitinous object that an insect or bird foe would seize when attacking the tree-hopper could be no possible incentive toward further efforts. In the above cited instance, this adaptation certainly saved two individuals from me, and without doubt in nature is often used successfully, and may be considered as a sort of adaptive self mutilation, or autotomy.

The accompanying plate will give an idea of the appearance of the insect, with and without the pronotal development.

THE STANFORD EXPEDITION TO BRAZIL, 1911.

J. C. BRANNER, *Chief.*

THE SPECIES OF THE COLEOPTEROUS FAMILY TEMNOCHILIDÆ COLLECTED ON THE EXPEDITION.

BY CHAS. SCHAEFFER,

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Temnochila chalcea Kirsch

Berl. Ent. Zeitsch. XVII, p. 149. Reit., Verh. Nat. Ver. Brunn, XIII, p. 13.

Sharp, Biol. Cent. Am. Col. II, pt. 1, p. 397.

Eleven specimens collected at Abuná and Porto Velho, Rio Madeira.

The females of this species, which is widely distributed in Central and South America, have the last ventral segment more or less deeply and broadly triangularly impressed, a rather unusual female character in this genus.

Tenebroides bipustulata Fab.

Fabr. Syst. El. I, p. 152.

Reit. Verh. Nat. Ver. Brunn, XIII, p. 67.

Sharp, Biol. Cent. Am. Col. II, pt. 1, p. 422.

Seven specimens collected at Porto Velho and Abuná, Rio Madeira.

The middle and hind tibiæ are armed with one or two small

spines on the upper edge, which is rather unusual in this genus and apparently overlooked by every author dealing with this species.

Tenebroides bipustulata var. impressifrons Reit.

Reit. Verh. Nat. Ver. Brunn, XIII, p. 66.

Lev. Bull. Soc. Ent. Fr. 1889, p. VII.

Sharp, Biol. Cent. Am. Col. II, pt. 1, p. 422. One specimen, Rio Madeira.

Differs from *bipustulata* only in the absence of the red elytral spots.

Tenebroides subcostata sp. nov.

Elongate, feebly convex, color of upper surface brown, under side, antennæ and legs castaneous. Head moderately coarsely, not densely punctate, a narrow space near clypeus almost smooth, with at most only a few very fine punctures. Antennal club abrupt and relatively large, sensitive space of joints large, occupying about half the width of the joint. Prothorax transverse, lateral margin crenulate, scarcely rounded at sides and feebly obliquely narrowing to base at about basal third; hind angles obtuse; anterior margin rather deeply emarginate, anterior angles prominent; basal marginal line almost entire, only narrowly interrupted at middle, surface rather coarsely and densely punctate at sides, less densely at middle. Scutellum small, smooth, shining. Elytra almost parallel, striæ replaced by very narrow, smooth and more or less distinctly elevated lines; intervals wide and very densely irregularly punctate. Underside of head smooth, shining with a few sparse punctures. Prothorax below densely and rather coarsely punctate. Abdominal segments irregularly transversely impressed and rather coarsely punctate. Length 7 mm.

Madeira-Mamoré R. R. Co. Camp 39. One specimen.

Judging from the descriptions this species seems to be related to *anceps* Lev. and *lineolata* Reit. Both have also the elytral striæ replaced by narrow elevated lines but have the intervals distinctly uni- or biserially punctured, while the intervals in *subcostata* are very densely, confusedly punctate.

Tenebroides vittata sp. nov.

Form short, feebly convex. Color above subæneous, shining, anterior margin of head, lateral margin of prothorax, an almost entire vitta on each elytron, occupying the fifth and sixth intervals and lateral margin narrowly red. Underside, antennæ and legs reddish. Head rather sparsely and finely punctate. Prothorax about twice as wide as long; sides arcuate but feebly narrowing towards base and not sinuate before basal angles; base scarcely narrower than the thorax at apical angles; basal margin almost straight with the angles rectangular, basal line entire; apical margin moderately deeply emarginate, angles acute, surface

rather sparsely and finely punctate, punctures a little coarser towards the lateral margin. Elytra slightly wider than the prothorax at base; humeral angles prominent but rounded; lateral margin slightly sinuate below humeral angles; the punctures representing the striæ feebly impressed on the disk but stronger at sides; intervals with a few, scarcely visible punctures. Antennæ rather short, the club nearly as long as the preceding joints. Submentum and gula almost smooth, with only a few coarse punctures at sides. Prosternum very sparsely punctate. Abdominal segments finely alutaceous, not densely punctate. Length 5 mm.

Madeira-Mamoré R. R. Co. Camp 43. One specimen.

I was unable to find a description that would fit this distinct little species.

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J. C. BRANNER, *Director.*

STUDIES AMONGST THE COCCINELLIDÆ. NO. 3.

By F. W. NUNENMACHER,
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The following paper consists of a list of the Coccinellidæ taken by the Stanford Expedition to Brazil in 1911. The Coccinellid material of their collection was entrusted to the writer and among the species taken I find two new to science which are described in their proper places in the list.

Genus *Epilachna* Chev.

Epilachna gossypiata Muls. Rio Madeira, Brazil, 2 specimens.

Genus *Psyllobora* Muls.

Psyllobora confluens Fab. Ceará, Brazil, 8 specimens.

Genus *Cycloneda* Cr.

Cycloneda sanguinea L. Abuná, Bolivia, 1 specimen.

Genus *Exocomus* Redt.

Exocomus bimaculosus Muls. Independencia, Parahyba, Brazil (Mann and Heath).